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UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Bruno RICHARD et al.

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Application No.: 10/012,466

Examiner: B. Thai

Filing Date: Dec. 12, 2001

Group Art Unit: 2163

Title: METHOD AND APPARATUS FOR INDEXING FILES

Mail Stop Appeal Brief-Patents
Commissioner For Patents
PO Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF APPEAL BRIEF

Sir:

Transmitted herewith is the Appeal Brief in this application with respect to the Notice of Appeal filed on Dec. 23, 2005.

The fee for filing this Appeal Brief is (37 CFR 1.17(c)) \$500.00.

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

() (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)-(d) for the total number of months checked below:

- | | |
|------------------|-----------|
| () one month | \$120.00 |
| () two months | \$450.00 |
| () three months | \$1020.00 |
| () four months | \$1590.00 |

() The extension fee has already been filled in this application.

(X) (b) Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

Please charge to Deposit Account **08-2025** the sum of \$500.00. At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2025 pursuant to 37 CFR 1.25. Additionally please charge any fees to Deposit Account 08-2025 under 37 CFR 1.16 through 1.21 inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees. A duplicate copy of this sheet is enclosed.

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Respectfully submitted,

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Attorney Docket 50002133-2US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant: Bruno RICHARD, et al.

Title: METHOD AND APPARATUS FOR INDEXING FILES

Appl. No.: 10/012,466

Filing Date: 12/12/2001

Examiner: H. Thai

Art Unit: 2163

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Mail Stop APPEAL BRIEF - PATENTS

Commissioner for Patents

PO Box 1450

Alexandria, Virginia 22313-1450

Sir:

The following is the Appellant Appeal Brief under the provisions of 37 C.F.R. 41.37.

1. Real Party in Interest

The real party in interest is Hewlett-Packard Company (with a principle place of business in Fort Collins, Colorado), the assignee of record.

2. Evidence Appendix

There is no related evidence that will directly affect, be directly affected by or have a bearing on the present appeal, that is known to appellant, the assignee, or the appellant's patent representative. The Evidence Appendix (Section 10), attached hereto, states "None".

3. Related Appeals and Interferences

There are no related appeals or interferences that will directly affect, be directly affected by or have a bearing on the present appeal, that are known to appellant, the assignee,

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or the appellant's patent representative. The Related Proceedings Appendix (Section 11), attached hereto, states "None".

4. Status of Claims

The present appeal is directed to claims 1-15 and 18-39, which are the claims under consideration. A copy of the pending claims 1-15 and 18-39 are attached herein in the Claims Appendix (Section 12).

Claims 1-15 and 18-39 are finally rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent 5,778,395 to Whiting et al. (hereafter "Whiting") in view of U.S. patent 5,485,606 to Midgley et al. (hereafter "Midgley").

5. Status of Amendments

Claims 1-39 were initially pending in the application filed on December 12, 2001. Claims 1, 7, 11, 14, 15, 18, 21, 23-28, 31, 37, and 39 were amended in an Amendment and Reply Under 37 C.F.R. § 1.111 filed July 20, 2004, in reply to a first Office Action on the merits mailed on January 20, 2004.

Claims 1, 11, 14, 18, 21, 23, 29, 31, 37, and 39 were amended in an Amendment and Reply Under 37 C.F.R. § 1.116 filed February 25, 2005, in reply to a final Office Action on the merits mailed on December 28, 2004. Entry of the Amendment filed February 25, 2005 was requested in a Request for Continued Examination (RCE) filed April 26, 2005 and a Submission in reply to 1) a final Office Action mailed on December 28, 2004 and 2) an Advisory Action mailed March 18, 2005 which rejected claims 1-39. Claims 1, 14, 15, 18, 21, 23, 29, 30, 31, 37 and 39 were amended and claims 16 and 17 were canceled in the Submission filed April 26, 2005.

A Reply Under 37 C.F.R. § 1.111 was filed August 17, 2005, in response to 1) a non-final Office Action mailed May 17, 2005.

A Notice of Appeal was filed on December 23, 2005, in response to a final Office Action dated October 27, 2005.

This Appeal Brief is being filed in response to the final Office Action dated October 27, 2005.

6. Summary of the Invention

The specification discloses a process, system, and program code for automatically indexing files and documents. The specification discloses that indexes are created for accessing a user's data in particular documents by extracting *relevant words and items* which can serve as *direct access* points to the individual files in which they are referred to. See page 1, lines 15-20.

As part of the backup operations on the files on a computer, the specification discloses that a scanning operation is carried out to derive a set of itemized indexes for subsequent use in obtaining *direct access* to the files. See page 2, lines 11-17. The scanning operation (for deriving the indexes) is used for both generating the signature of a file and for extracting the *key words and indexes* for the files (being backed up). See page 2, lines 25-26 and page 10, lines 26-32. Furthermore, the specification discloses that the same scanning operation is used for the both the backup and indexing processes. See page 3, lines 4-6.

The disclosure also states that the process of indexing includes opening each file for compiling the set of indexes. See page 4, lines 21-25. One of skill in the computer science art would recognize that the term "opening each file" means reading the actual contents of each file (for example, the word data of text files) as part of the indexing process something which only makes sense if the contents (i.e., the word data in text files which are taught as being indexed, for example, on page 3, lines 1-2) were used to create the indexes. The fact that the contents of the files could be text (i.e., word data) is also disclosed in page 7, lines 34-36 which discloses that the documents backed up include text documents and other compound files that include textual information.

Once the indexes have been created, the process of searching the indexes to access the files is discussed in figure 5 and its description in the text at page 11, lines 9-26.

7. Issues

The issue on appeal is whether the examiner erred in rejecting claims 1-15 and 18-39 under 37 U.S.C. § 103(a) as being unpatentable over Whiting (U.S. Patent No. 5,778,395) in view of Midgley (U.S. Patent No. 5,485,606).

8. Argument

It is respectfully submitted that the final rejection of claims 1-15 and 18-39 under 37 U.S.C. § 103(a) as being unpatentable over Whiting in view of Midgley is erroneous for at least the following reasons.

I. Independent Claims 1, 14, 15, 18, 21, 23, 29, 31, 37, and 39

The Applied Prior Art does not show features recited in the pending independent claims

Each of the independent claims 1, 14, 15, 18, 21, 23, 29, 31, 37, and 39 recite, *inter alia*, a process (or corresponding system/software) that (1) uses the scanning step of a backup operation on files to substantially simultaneously derive a set of word data indexes, (2) whereby the *word data indexes* provide a direct access to the files based on the word data content of the files. These recited features are not disclosed or suggested by the applied prior art.

Specifically, with respect to the Whiting reference, applicants note that the prior Office Action has acknowledged that Whiting does not disclose the creation of word (or semantic) data indexes as a part of the backup process. As noted earlier, the only indexing disclosed in Whiting is directed to properly performing the backup process in order to keep track of the files for the backup system. See col. 17, line 5 to col. 18, line 35 of Whiting. As noted in the Abstract, Whiting states that all its enhancement *significantly reduce both the amount of storage and the amount of network bandwidth for performing the backup*. See lines 14-16 of the Abstract of Whiting. Therefore, Whiting teaches indexing during a backup process for improving the efficiency of the backup process itself and does not teach the claimed using of the scanning step of a backup to substantially simultaneously derive a set of word data indexes which allow direct access (by a key word based search request) to the files based on the word data content of the files.

The final Office Action incorrectly asserts that Whiting discloses “using the scanning operation to derive a set of word data indexes for subsequent use in obtaining direct access to said files,” and cites to Figs. 3-5, col. 4, lines 25-32, col. 5, line 45-46, col. 14, line 48-51, and col. 12, lines 38-63 of Whiting. However, none of these cited portions of Whiting disclose or

suggest using the scanning operation to derive a set of word data indexes for direct access to the files based on the word data content of the files.

Specifically, *Figs. 3-5* disclose the backup process and the details of the information stored a backup directory file 143 (and offsite in a file 148). Nowhere is the backup directory file 143 described as an index file into the backed up files with the index being a word data index for access based on the word data content of the files being backed up. *Col. 4, lines 25-32* of Whiting discloses that access to backup data can be insured by assigning standard network security access rights to each user's directory and that each user can access his own applications from the backup directory. *Col. 5, lines 45-46* of Whiting states that a user "may access the files directly using his own applications, without first having to copy them to a separate restore program." *Col. 14, lines 48-51* of Whiting discloses that pointers may be used to access compressed and encrypted data blocks (corresponding to particular files) as shown with respect to figure 6 of Whiting. *Col. 12, lines 38-63* describes sections of the backup directory file and refers to sections containing information on description of backup operation as well as indexes that track the location of the actual data files. Clearly these cited portions of Whiting have no bearing on the claimed derivation of a set of word data indexes for direct access to the files based on the word data content of the files. Accordingly, at least this recited feature in the pending independent claims is not disclosed or suggested by Whiting.

Neither is this deficiency in Whiting cured by Midgley. Specifically, the Office Action cites to the Summary and col. 5, lines 46-67 of Midgley for allegedly disclosing using the scanning operation to derive a set of word data indexes for direct access to the files based on the word data content of the files. However, this portion only discloses that the back up process creates a directory file with an operating system specific field area 49 which includes data that is processed uniquely by a particular operating system (and would be ignored by other operating systems). For example, control words used to *control access* (for example, based on permissions or ownership) to data would be stored in this section (since controlling access is typically performed by an operating system, for example, through the operating system provided functionality of a file system). These control words have nothing to do with

word data indexes for direct access to the files based on the word data content of the files (as opposed to ownership or permission based access restrictions on the file).

Accordingly, neither Whiting nor Midgley, and nor their reasonable combination, discloses or suggests features recited in the pending independent claims. Therefore, the pending independent claims are patentable over the applied prior art.

Reply to Response to Arguments on Page 2 of Final Office Action dated October 27, 2005

The Office Action states that there is not enough support to how the scanning step of the backing up operation is used to derive a set of word data indexes for subsequent use in obtaining direct access to the files. However, the specifics (i.e., the “how to”) of creating a word data index in obtaining direct access to files based on their word data content is well known to those of skill in the art of databases and indexing. With respect to claimed creation of such a word data index during a backing up operation, there is sufficient support in the specification (which includes the originally filed claims). In addition, to the disclosure of page 1, line 15-20, page 2, lines 25-26, and page 7, lines 18-36 of the specification when considered together with the totality of the disclosure (which relates to indexing files during a backing up operation), the originally filed claims 11 and 15 also support this feature. Claim 11 specifically discloses that the indexes (created during backup) are searchable by keywords. Claim 15 discloses that each file to be backed up is opened so that its content (key words for text files disclosed on page 7, lines 34-36, for example) is used for compiling the set of indexes which are they searchable by keywords (as disclosed in the originally filed claim 11, for instance). Therefore, both the process of creating indexes based on the content of the backed-up files (and not just their attributes) and the search of these indexes by keywords is disclosed by the specification in sufficient detail that would be understood by one skilled in the art.

II. Dependent claims 1-13, 19, 20, 22, 24-28, 30, 32-36, and 38

Dependent claims 1-13, 19, 20, 22, 24-28, 30, 32-36, and 38 depend from one of independent claims 1, 14, 15, 18, 21, 23, 29, 31, 37, and 39 and are allowable for at least the same reasons, as well as for further patentable features recited therein.

9. Conclusion

In view of above, appellants respectfully solicit the Honorable Board of Patent Appeals and Interferences to reverse the rejection of the pending claims and pass this application on to allowance.

Respectfully submitted,

February 22, 2006

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10. **EVIDENCE APPENDIX**

None

11. RELATED PROCEEDINGS APPENDIX

None

12. CLAIMS APPENDIX

LIST OF THE PENDING CLAIMS (WITH STATUS IDENTIFIERS)

1. (Previously Presented) A process for indexing files residing on a computer as part of a backup operation, comprising the steps of:
 - executing one or more periodic backup operations on the files, said backup operation including the step of scanning the files; and
 - using said scanning step of the backup operation to substantially simultaneously derive a set of word data indexes for subsequent use in obtaining direct access to said files based on the word data content of said files.
2. (Original) An indexing process as claimed in claim 1 wherein both text processing files and compound files are analyzed and indexed.
3. (Original) An indexing process as claimed in claim 1 implemented in a centralized environment where a server is associated with a database, said database adapted to store backup files and wherein said server substantially simultaneously carries out the backup and the indexing of the files.
4. (Original) An indexing process as claimed in claim 3 wherein said server indexes files residing on a plurality of computers attached to, or constituting a network for the purpose of generating a centralized table of indexes loaded on said server.
5. (Original) An indexing process as claimed in claim 4 wherein access rights are defined for each file including at least one indexing right that is used for controlling the indexing process of the files within said centralized table of indexes.
6. (Original) An indexing process as claimed in claim 5 wherein the at least one indexing right includes: a first indexing attribute which authorizes the indexing of a given file

within the centralized index; and a second indexing attribute defining selective access to that file.

7. (Previously Presented) An indexing process as claimed in claim 6 wherein after completion of the backup of files residing on a first machine, said server transmits to the first machine a local table of indexes representative of the different documents stored on that first machine.

8. (Original) An indexing process as claimed in claim 3 wherein transfer of the files which are to be backed up uses the Hyper Text Transfer (H.T.T.P.), RCP, FTP or the like protocols.

9. (Original) An indexing process as claimed in claim 1 wherein the files correspond to system and/or user files.

10. (Original) An indexing process as claimed in claim 9 wherein the indexing is performed in relation to the user files.

11. (Previously Presented) A process for searching for a file within a set of indexed files, said files stored on a plurality of computers connected to, or constituting, a network, the files being indexed in accordance with the indexing process as claimed in claim 6, comprising:

- initiating a search request for a given file, said request containing a set of key words corresponding to the word data in the indexes;

- processing said search request by reference to a first local table of indexes stored on one of said plurality of computers in order to locate a first set of relevant files extracted from said one computer;

- processing, upon request from the user, an additional search within said centralized index loaded into said server for the purpose of obtaining any additional results corresponding to files stored on the backup database; and

- displaying the result of said additional search and, for each or any file having a selective access attribute, automatically generating an electronic mail to be sent to a corresponding originator of said file for the purpose of requesting access to said file.

12. (Original) An apparatus comprising program code elements for carrying out the process as claimed in claim 1.

13. (Original) A computer program product comprising computer program code stored on a computer readable medium adapted, when executed on a computer, to perform the step of claim 1.

14. (Previously Presented) A knowledge-base system for indexing files residing on a computing system as part of a backup operation comprising:

- means for regularly backing up files stored on computers connected to or constituting a network; and
- means for substantially simultaneously indexing the files during the backup procedure for the purpose of creating and updating a database of backup files and documents as well as a centralized word data index of backed up documents that provide direct access to the backup files based on the word data content of the backed-up documents.

15. (Previously Presented) A backup process for a stand-alone computer comprising:

- opening each file which is to be backed up;
- while opening said file, compiling a set of word data indexes characterizing said files and which will be incorporated into a table of indexes; and
- closing said file upon completion of said backup and said indexing operation.

16-17 (Cancelled)

18. (Previously Presented) A process for indexing files residing on a plurality of computers as part of a backup operation attached to, or constituting a network for the purpose of generating a centralized table of indexes for use in obtaining direct access to said files, the table being stored on a server associated with a database adapted to store backup files, comprising the steps of:

- executing repeated backup operations on the files, said backup operations including the step of scanning the files; and
- using said scanning operation to substantially simultaneously derive a set of word data indexes for inclusion in the centralized table of indexes, wherein said server substantially simultaneously carries out the backup and the indexing of the files, and wherein said word data indexes provide direct access to the files based on the word data content of the files.

19. (Original) An indexing process as claimed in claim 18 wherein access rights are defined for each file including at least one indexing right that is used for controlling the indexing process of the files within said centralized table of indexes.

20. (Original) An indexing process as claimed in claim 19 wherein the at least one indexing right includes: a first indexing attribute which authorizes the indexing of a given file within the centralized index; and a second indexing attribute defining selective access to that file.

21. (Previously Presented) A process for indexing files residing on a plurality of computers as part of a backup operation attached to, or constituting a network for the purpose of generating a centralized table of indexes for use in obtaining direct access to said files, the table being stored on a server associated with a database adapted to store backup files, comprising the steps of:

- executing repeated backup operations on the files, said backup operations including the step of scanning the files; and
- using said scanning operation to substantially simultaneously derive a set of word data indexes for inclusion in the centralized table of indexes wherein said word data indexes

provide direct access to the files based on the word data content of the files, wherein said server substantially simultaneously carries out the backup and the indexing of the files, wherein access rights including at least one indexing right are defined for each file and used for controlling the indexing process of the files within said centralized table of indexes.

22. (Original) An indexing process as claimed in claim 21 wherein the at least one indexing right includes: a first indexing attribute which authorizes the indexing of a given file within the centralized index; and a second indexing attribute defining selective access to that file.

23. (Previously Presented) An apparatus comprising program code elements for:

- executing one or more periodic backup operations on files stored on a computer, said backup operation including the step of scanning the files; and
- using said scanning operation to substantially simultaneously derive a set of word data indexes for subsequent use in obtaining direct access to said files based on the word data content of said files.

24. (Previously Presented) The apparatus as claimed in claim 23 in the form of a server is associated with a database adapted to store backup files and wherein said program code elements are arranged to substantially simultaneously carry out the backup and the indexing of the files.

25. (Previously Presented) The apparatus as claimed in claim 24 wherein said program code elements are arranged to index files residing on a plurality of computers attached to, or constituting a network for the purpose of generating a centralized table of indexes stored on said server.

26. (Previously Presented) The apparatus as claimed in claim 23 wherein said program code elements operate under the control of access rights that are defined for each file including at least one indexing right.

27. (Previously Presented) The apparatus as claimed in claim 26 wherein the at least one indexing right includes: a first indexing attribute which authorizes the indexing of a given file within the centralized index; and a second indexing attribute defining selective access to that file.

28. (Previously Presented) The apparatus as claimed in claim 24 wherein the program code elements are arranged to transmit to a computer a local table of indexes representative of the different files stored on that computer after completion of the backup of files residing on that computer.

29. (Previously Presented) A server associated with a database adapted to store backup files and comprising program code elements for indexing files residing on a plurality of computers as part of a backup operation attached to, or constituting, a network for the purpose of generating a centralized table of indexes for use in obtaining direct access to said files, said program code elements comprising:

program code element to execute repeated backup operations on the files, said backup operations including the step of scanning the files; and

program code element that uses said scanning operation to substantially simultaneously derive a set of word data indexes for inclusion in the centralized table of indexes wherein said word data indexes provide direct access to the files based on the word data content of the files.

30. (Previously Presented) A server as claimed in claim 29 wherein said program code elements operate under the control of at least one indexing right defined for each file, said indexing right including: a first indexing attribute which authorizes the indexing of the file within the centralized index; and a second indexing attribute defining selective access to that file.

31. (Previously Presented) A computer program product comprising computer program code stored on a computer readable medium adapted, when executed on a computer as part of a backup operation, to

- execute one or more repeated backup operations on files stored on a computer, said backup operation including the step of scanning the files; and
- derive, using said scanning operation, of a set of word data indexes for subsequent use in obtaining direct access to said files based on the word data content of said files.

32. (Original) A computer program product as claimed in claim 31 for use in a server that is associated with a database adapted to store backup files and wherein said program code elements are arranged to substantially simultaneously carry out the backup and the indexing of the files.

33. (Original) A computer program product as claimed in claim 32 wherein said program code elements are arranged to index files residing on a plurality of computers attached to, or constituting a network for the purpose of generating a centralized table of indexes stored on said server.

34. (Original) A computer program product as claimed in claim 33 wherein said program code elements operate under the control of access rights that are defined for each file including at least one indexing right.

35. (Original) A computer program product as claimed in claim 34 wherein the at least one indexing right includes: a first indexing attribute which authorizes the indexing of a given file within the centralized index; and a second indexing attribute defining selective access to that file.

36. (Original) A computer program product as claimed in claim 33 wherein the program code elements are arranged to transmit to a computer a local table of indexes

representative of the different files stored on that computer after completion of the backup of files residing on that computer.

37. (Previously Presented) A computer program product comprising program code element for use on a server associated with a database adapted to store backup files and for indexing files residing on a plurality of computers as part of a backup operation attached to, or constituting, a network for the purpose of generating a centralized table of word data indexes for use in obtaining direct access to said files, said program code elements comprising:

program code element arranged to execute repeated backup operations on the files, said backup operations including the step of scanning the files; and

program code element being arranged to use said scanning operation to substantially simultaneously derive a set of word data indexes for inclusion in the centralized table of indexes wherein said word data indexes provide direct access to the files based on the word data content of the files.

38. (Original) A computer program product as claimed in claim 37 wherein said program code elements operate under the control of at least one indexing right defined for each file, said indexing right including: a first indexing attribute which authorizes the indexing of the file within the centralized index; and a second indexing attribute defining selective access to that file.

39. (Previously Presented) A program product for backing up files within a network of computers, comprising:

(a) computer program code stored on a computer readable medium adapted, when executed on a computer, (i) to execute one or more repeated backup operations on files stored on a computer, said backup operation including the step of scanning the files; and (ii) to substantially simultaneously derive using said scanning operation a set of word data indexes for subsequent use in obtaining direct access to said files based on the word data content of said files; and

(b) computer program code stored on a computer readable medium adapted, when executed on a computer, to search for a file stored on a plurality of computers connected to, or constituting, a network within such a set of word data indexes, by (i) initiating a search request for a given file, said request containing a set of key words or indexes, (ii) processing said search request by reference to a first local table of indexes stored on one of said plurality of computers in order to locate a first set of relevant files extracted from said one computer; (iii) processing an additional search within a centralized index on a server for the purpose of obtaining any additional results corresponding to files stored on the backup database, (iv) displaying the result of said additional search.